

## CLAIMS

1. A pipe fitting for connecting at least two pipes (4), which pipe fitting (1) comprises at least two layers in such a way that the innermost layer (2) is made of a material different from the outer layer (3), and that the innermost layer (2) is made of plastic tolerating high temperatures, and that the outer layer (3) is formed of such a material that the outer layer (3) is arranged to function as the provider of oxygen diffusion protection and/or the UV protector, **characterized** in that the materials of the different layers are selected in such a way that the outer layer (3) is not attached to the innermost layer (2).
2. A pipe fitting according to claim 1, **characterized** in that the outer layer is arranged to function as the provider of chemical resistance.
3. A pipe fitting according to claim 1 or 2, **characterized** in that the outer layer (3) is arranged to function as mechanical reinforcement.
4. A pipe fitting according to any one of the preceding claims, **characterized** in that the innermost layer (2) is made of polyphenyl sulphone PPSU, polysulphone PSU or polyvinylidene fluoride PVDF.
5. A pipe fitting according to any one of the preceding claims, **characterized** in that the outer layer (3) is made of polyamide PA, polypropylene PP or polyethylene PE.
6. A pipe fitting according to any one of the preceding claims, **characterized** in that the walls of the innermost layer (2) are formed smooth.
7. A pipe fitting according to any one of the preceding claims, **characterized** in that there is an intermediate layer (7) between the innermost layer (2) and the outer layer (3).
8. A pipe fitting according to claim 7, **characterized** in that the intermediate layer (7) is a foamed plastic material layer.
9. A pipe fitting according to any one of the preceding claims, **characterized** in that the outer surface of the pipe fitting (1) is of the same colour as the pipe (4) to be connected to the pipe fitting.
10. A pipe fitting according to any one of the preceding claims, **characterized** in that the end of the outer layer (3) is arranged to function as the stop member of the pipe (4) to be inserted into the pipe fitting (1).

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11. A pipe fitting according to any one of the preceding claims, **characterized** in that the UV protection of the outer surface of the pipe fitting is intensified with metal or mica pigment.

5 12. A pipe fitting according to any one of the preceding claims, **characterized** in that a compression collar (5) is arranged to be used to guarantee the connection between the pipe fitting (1) and the pipe (4).

13. A pipe fitting according to claim 12, **characterized** in that the outer diameter of the pipe fitting (1) is arranged to be equal to the outer diameter of the compression collar (5).

10 14. A pipe fitting according to claim 12 or 13, **characterized** in that the colour of the compression collar (5) is substantially the same as the colour of the pipe fitting (1).

15 15. A pipe fitting according to claim 14, **characterized** in that the outer surface of either the compression collar (5) or the pipe fitting (1) is embossed.

16. A pipe fitting according to any one of claims 12 to 15, **characterized** in that the end of the compression collar (5) on the side of the pipe (4) is rounded.

20 17. A pipe fitting according to any one of claims 12 to 16, **characterized** in that a support (10) is intended to be used in connection with the pipe fitting (1), the support having a support collar (11) whose width is substantially equal to the width of the compression collar (5) and whose outer diameter is substantially equal to the outer diameter of the compression collar (5).

25 18. A pipe fitting according to claim 17, **characterized** in that the pipe (4), the support (10), the pipe fitting (1) and the compression collar (5) are substantially of the same colour.

30 19. A pipe fitting according to any one of the preceding claims, **characterized** in that in connection with the pipe fitting a plastic composite pipe having a plastic innermost layer and a metal layer outside it is intended to be used; that the outer surface of the plastic composite pipe is of metal colour, the colour being provided by using a transparent extruded plastic material upon the metal layer, or in such a way that a surface is extruded upon the metal, which surface is coloured using pearlescent, metal-coloured or mica pigments.

35 20. A pipe fitting according to any one of the preceding claims,

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**characterized** in that the outer layer (3) is formed as a separate and replaceable part.

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